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EP-A- 0 232 800
CA-A- 1 213 510
DE-A- 3 206 935
US-A- 3 802 598

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Description

The invention relates to a child's seat having a bottom, armrests, a backrest and footrests, as well as means for mounting the child's seat on a bicycle, which mounting means includes a forward extension on the bottom for attachment to the rear fork.

In a known child's seat (i.e. DE-A-3,206,935) the means for mounting the seat on a bicycle consist of a bracket attached to the underside of the seat, said bracket being secured with a separate clamping member to the luggage carrier of the bicycle by means of a bolt-and-nut joint. This means that the mounting or demounting takes quite some time. The result is that once such a child's seat has been mounted, it is mostly not demounted again but remains affixed to the bicycle.

Another drawback is that the bicycle has to be provided with a solid luggage carrier. Further this known seat is not comfortable for the child; as the seat directly rests on the luggage carrier all the vibrations and the bumps of the bicycle will be transmitted to the child.

It is an object of the invention to remove these drawbacks.

To that effect the child's seat is characterized in that said attachment comprises a hook joint, e.g. a bayonet link, adapted for cooperation with a complementary end of a mounting bracket which forms part of the mounting means and which bracket is attached to the rear fork of the bicycle and which mounting means also includes a substantially U-shaped bracket rotatably attached to the front of the bottom and clamping members attached releasably to the fork legs, which bracket comprises the footrests, and is further provided with forked elements adapted to coact with the clamping members.

In a further elaboration of the invention, the clamping member may consist of a mounting bracket and a clamping bracket interconnected by a bolt-and-nut joint for attachment of the forward extension to the rear of the bicycle, said mounting bracket being adapted to coact with the complementary end of the forward extension by means of a hook joint, e.g. a bayonet joint, thus enabling a very simple mounting and demounting.

Furthermore, the clamping members attached to the fork legs may each consist of a clamping portion to be secured detachably to a fork leg and having a counter plate, said clamping portion being fitted itself with a bolt whose opposite end is threaded and adapted to coact with the nut. In this manner, also the second point of attachment of the child's seat can be secured very easily.

The latter is improved by making the facing sides of the clamping portion and the nut rounded and making the nut a wing nut.

Besides, the footrests may be fitted adjustably on

the legs of the U-shaped bracket, so that the footrests are located at the correct height for the child in question.

The footrests may have a foot strap or elastic band, so that the child is positioned firmly in the seat.

Furthermore, the child's seat may be provided with a safety belt whose attachment takes place by frictionally receiving one eye-shaped end of the safety belt in a tubular nesting space of an armrest or the backrest, with a pin extending through the eye-shaped end, and with the wall of the tubular nesting space having an elongate slot. With a view to a convenient assembly, said pin may have a spaced apart auxiliary pin extending parallel thereto, which is connected fixedly to the pin by means of a bridge piece.

For completion reference is made to US-A-3,802,598 and EP-A-0 232 800 which patent applications both show a child's seat which have the same drawbacks as the aforementioned DE-A-3,206,935.

One embodiment of the child's seat according to the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 is a side view of a child's seat and of a part of a bicycle before assembly of the seat;

Fig. 2 is a view according to Fig. 1 during assembly;

Fig. 3 is a view according to Figs. 1 and 2 but essentially after assembly;

Fig. 4 is a perspective view of the mounting bracket and clamping bracket interconnected by a bolt-and-nut joint;

Fig. 5 shows a clamping member to be attached to the fork legs; and

Fig. 6 is a perspective bottom view of a part of an armrest, showing with exploded parts the attachment of a safety belt.

As shown in the drawings, a child's seat is provided with a bottom 1, a backrest 2 and armrests 3. A cushion 4 is placed releasably on the bottom by means of a Velcro® fastener. Underneath the bottom there is rotatably fitted a U-shaped bracket 5 through means not shown, the ends 6 of which are fork-shaped. These fork-shaped ends 6 are adapted to coact with clamping members 7, which will be described in more detail hereinafter with reference to Fig. 5.

As shown in the drawings, the bottom is provided with a forward extension 9 whose free end is adapted to coact with a mounting bracket 10, which together with a clamping bracket 11, can be attached through a bolt 12 and a nut 13 to a rear fork 14 of a bicycle 15, not further shown.

As shown in Figs. 2 and 4, the insertion opening of the mounting bracket 10, serving for coaction with the forward extension 9, is fitted with recesses 35, 36 superposed as viewed in vertical direction, while the forward extension 9 is fitted with a recess 37. The recesses are destined more in particular for the pas-

sage of a central brake cable, electrical cable or the like, which is thus properly retained and guarded, so that on the one hand the cable is protected against damage, while on the other hand a child sitting in the seat can hardly come into contact with the cable.

In the embodiment of the clamping member shown in Fig. 4, a connecting bracket 16 is received between mounting bracket 10 and clamping bracket 11. As further shown in Fig. 4, the open sides of mounting bracket 10 are closed by a closing plate 17 constructed in such a manner that connecting bracket 16, mounting bracket 10 and closing plates 17 form an integral unit. The attachment of the closing plates to the mounting bracket 10 takes place by means of rivets 18.

As already observed, the free end of the forward extension 9 is constructed so as to coact in the manner of a hook joint or a bayonet catch with a corresponding opening 19 provided in the mounting bracket 10, shown most clearly in Fig. 4.

As shown in Fig. 5, the clamping members attached to the fork legs comprise a clamping portion 21 to be attached to a fork leg by means of a counter plate 20. Affixed to the clamping portion 21 is a bolt 22 having a threaded free end. This thread is adapted for coaction with a wing nut 23. As further shown in Fig. 5, the facing sides of the clamping portion and the wing nut 24, 25 are rounded, so that the forked ends of the U-shaped bracket can be easily brought in the proper position therebetween, after which the fork legs can be secured by tightening the wing nut.

As may appear from the foregoing, during assembly first the forward extension 9 is therefore connected to clamping member 10, 11 and subsequently the forked ends 6 of the U-shaped bracket 5 are connected to clamping members 7.

As further shown in Fig. 6, the synthetic plastics armrest 3 is provided on the inside with reinforcing ribs 26. The rearmost of the two indicated reinforcing ribs 26 is fitted with a tubular nesting space 27, while the wall of said tubular nesting space contains an elongate slot 28. A safety belt 29 is fitted with an eye-shaped end 30 adapted to coact with a pin 31. Pin 31 is connected to an auxiliary pin 33 through a bridge piece 32. Said auxiliary pin 33 serves for facilitating the assembly, during which pin 31 is pushed into the looped end 30 and jointly therewith, with friction, into the tubular nesting space 27. Because armrest 3 is geniculated (the geniculated portion is indicated at 34), a very simple, yet good attachment of the safety belt is achieved. However, also various modifications are possible, for example fitting a pin in the armrest in fixed relationship, said pin being arranged for coaction with the eye-shaped end of the belt. In this case, the pin could be roughened, thus preventing it from falling out after assembly. Naturally, also other means can be employed.

It will be clear that a great many modifications are

possible without departing from the scope of the inventive idea. Essential for the present invention is that the seat can be mounted and demounted very easily by means of clamping members affixed to the bicycle once, which preferably basically have no protruding parts.

A further important advantage of the child's seat is that it is supported on, and attached to, parts of the bicycle frame and is independent of a strong luggage carrier present or absent.

Claims

1. A child's seat comprising a bottom (1), armrests (3), a backrest (2) and footrests (8), as well as means (9, 10, 11) for mounting the seat on a bicycle, which mounting means includes a forward extension (9) on the bottom (1) for attachment to the rear fork, characterized in that said attachment comprises a hook joint, e.g. a bayonet link (Fig. 2), adapted for cooperation with a complementary end of a mounting bracket (10) which forms part of the mounting means and which bracket is attached to the rear fork (14) of the bicycle and which mounting means also includes a substantially U-shaped bracket (5) rotatably attached to the front of the bottom (1) and clamping members (7) attached releasably to the fork legs (14), which bracket comprises the footrests (8), and is further provided with forked elements (6) adapted to coact with the clamping members.

2. A child's seat as claimed in claim 1, characterized in that the clamping member (7) for attaching the forward extension to the rear fork of the bicycle consists of a mounting bracket (10) and a clamping bracket (11) interconnected by a bolt-and-nut joint (12,13).

3. A child's seat as claimed in claim 1 or 2, characterized in that the clamping members (7) secured to the fork legs each consist of a clamping portion (21) to be attached releasably to a fork leg (14) and having a counter plate (20), said clamping portion (21) being fitted per se with a bolt (22) whose opposite end is threaded, said thread being adapted to coact with the nut (23).

4. A child's seat as claimed in claim 3, characterized in that the facing sides of the clamping portion (21) and the nut (23) are rounded.

5. A child's seat as claimed in claim 3 or 4, characterized in that the nut (23) is constructed as a wing nut.

6. A child's seat as claimed in claim 1, characterized in that the footrests (8) are mounted adjustably on the legs of the U-shaped bracket.

7. A child's seat as claimed in claim 6, characterized in that the footrests are fitted with a foot strap or elastic band.

8. A child's seat as claimed in any of the preceding claims and further comprising a safety belt (29),

characterized in that the attachment of the safety belt ends takes place by receiving an eye-shaped end (30) of the safety belt with friction in a tubular nesting space (27) of an armrest (3) or the backrest, while a pin (3) extends through said eye-shaped end (30), with the wall of the tubular nesting space having an elongate slot (28).

9. A child's seat as claimed in claim 8, characterized by an auxiliary pin (33) adapted to coact with the exterior of said tubular nesting space.

10. A child's seat as claimed in any of the preceding claims, characterized in that the front of the extension (9) and the clamping member (10, 11) are provided with openings (37) aligned in mounted condition for the passage of a brake cable, electrical cable or the like.

Ansprüche

1. Kindersitz mit einer Sitzfläche (1), mit Armlehnen (3), mit einer Rückenlehne (2) und mit Fußstützen (8) sowie mit Mitteln (9, 10, 11) zur Befestigung des Sitzes auf einem Fahrrad, die ein nach vorn gerichtetes, an der Sitzfläche angebrachtes Verlängerungsstück (9) umfassen, das an der Hinterradgabel des Fahrrades anbringbar ist, dadurch gekennzeichnet, daß die Befestigung eine Rastverbindung, vorzugsweise ein Bajonettverschluß (Figur 2) ist, die mit einem korrespondierenden Ende einer laschenförmigen Halterung (10) zusammenwirkt, welche als Teil der Befestigungsmittel mit der Hinterradgabel (14) des Fahrrades verbunden ist, daß die Befestigungsmittel ferner einen im wesentlichen U-förmigen Bügel (5) aufweisen, der mit der vorderen Unterseite der Sitzfläche (1) drehbeweglich verbunden ist und gleichzeitig die Fußstützen (8) trägt sowie gabelförmige Enden (6) aufweist, und daß Klemmelemente (7) mit den Streben (14) der Hinterradgabel lösbar verbunden sind, die mit den gabelförmigen Enden (6) des Bügels (5) in lösbarer Wirkverbindung stehen.

2. Kindersitz nach Anspruch 1, dadurch gekennzeichnet, daß die laschenförmigen Klemmelemente zur Befestigung des Verlängerungsstückes an der Hinterradgabel aus einer bügelförmigen Halterung (10) und einer Klemmlasche (11) bestehen, die über eine Schraubverbindung (12, 13) miteinander verbunden sind.

3. Kindersitz nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die mit den Streben der Hinterradgabel zu verbindenden Klemmelemente (7) jeweils ein mit dem Gabelstreben (14) lösbar verbindbares Klemmstück (21) mit einem korrespondierenden Gegenstück (20) umfassen, und daß das Klemmstück (21) einen angeformten Bolzen (22) aufweist, dessen gegenüberliegendes Ende ein mit einer Befestigungsmutter (23) korrespondierendes

Gewinde aufweist.

4. Kindersitz nach Anspruch 3, dadurch gekennzeichnet, daß die einander zugewandten Flächen von Klemmstück (21) und Mutter (23) abgerundet sind.

5. Kindersitz nach Anspruch 3 oder 4, dadurch gekennzeichnet, daß die Mutter (23) als Flügelmutter ausgebildet ist.

6. Kindersitz nach Anspruch 1, dadurch gekennzeichnet, daß die Fußstützen (8) an den Schenkeln des U-förmigen Bügels (5) verstellbar angeordnet sind.

7. Kindersitz nach Anspruch 6, dadurch gekennzeichnet, daß die Fußstützen (8) mit einem Fußgurt oder einer elastischen Halteschleife ausgerüstet sind.

8. Kindersitz nach einem der vorhergehenden Ansprüche mit einem Sicherheitsgurt (29), dadurch gekennzeichnet, daß jedem Ende des Sicherheitsgurtes (29) eine Öse (30) zugeordnet ist, die in rohrförmige Aufnahmeenden (27) der Arm- oder Rückenlehne mit Reibungsschluß einsatzbar sind, wobei jeweils ein Stift (31) die in ein in der Wandung des Aufnahmeendes befindliches Langloch (28) einsetzbare Öse durchsetzt.

9. Kindersitz nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß ein weiterer Stift (33) von außen in die Wandung des rohrförmigen Aufnahmeendes eingreift.

10. Kindersitz nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß das vordere Ende des Verlängerungsstückes (9) und die zugeordnete Halterung (10, 11) derart positionierte Öffnungen (37) aufweisen, daß durch sie ein Bremskabel, ein elektrisches Kabel oder ähnliches hindurchführbar ist.

Revendications

1. Siège pour enfant comprenant un fond (1), des accoudoirs (3), un dossier (2) et des repose-pieds (8), ainsi que des moyens (9, 10, 11) pour monter le siège sur une bicyclette, ces moyens de montage comprenant une extension avant (9) sur le fond (1), pour la fixation à la fourche arrière, caractérisé par le fait ladite fixation comprend une liaison à genouillère, par exemple une monture à baïonnette (fig. 2), agencée pour coopérer avec une extrémité complémentaire d'un support de montage (10) qui fait partie des moyens de montage, ce support étant fixé à la fourche arrière (14) de la bicyclette et les moyens de montage comprenant également un support sensiblement en forme de U (5), fixé en rotation à l'avant du fond (1) et des organes de serrage fixés de façon amovible aux pieds de fourche (14), le support comprenant les repose-pieds (8), et étant également pourvu d'éléments fourchus (6) agencés pour coopérer avec les

organes de serrage.

2. Siège pour enfant selon la revendication 1, caractérisé par le fait l'élément de serrage (7) pour fixer l'extension avant à la fourche arrière de la bicyclette consiste en un support de montage (10) et en un support de serrage (11), interconnectés par une liaison à vis et écrou (12, 13).

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3. Siège pour enfant selon la revendication 1 ou 2, caractérisé par le fait les organes de serrage (7) fixés aux pieds de fourche consistent chacun en une partie de serrage (21) à fixer de façon amovible à un pied de fourche (14) et comportant une contre-plaque (20), ladite partie de serrage (21) étant montée en soi grâce à un boulon (22) dont l'extrémité opposée est filetée, ledit filetage étant agencé pour coopérer avec l'écrou (2).

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4. Siège pour enfant selon la revendication 3, caractérisé par le fait les faces en regard de la partie de serrage (21) et de l'écrou (23) sont arrondies.

5. Siège pour enfant selon la revendication 3 ou 4, caractérisé par le fait l'écrou (23) est réalisé comme un écrou à oreilles.

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6. Siège pour enfant selon la revendication 1, caractérisé par le fait les repose-pieds (8) sont montés réglables sur les pieds du support en forme de U.

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7. Siège pour enfant selon la revendication 6, caractérisé par le fait les repose-pieds sont montés avec une lanière ou une bande élastique.

8. Siège pour enfant selon l'une quelconque des revendications précédentes et comprenant en outre une ceinture de sécurité (29), caractérisé par le fait la fixation des extrémités de la ceinture de sécurité s'effectue en recevant une extrémité en forme d'oeillet (30) de la ceinture de sécurité avec une friction dans un espace de logement tubulaire (27) d'un accoudoir (3) ou du dossier, tandis qu'une tige (31) s'étend à travers ladite extrémité en forme d'oeillet (30), la paroi de l'espace de logement tubulaire ayant une fente allongée (28).

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9. Siège pour enfant selon la revendication 8, caractérisé par une tige auxiliaire (33) agencée pour coopérer avec l'extérieur dudit espace de logement tubulaire.

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9. Siège pour enfant selon l'une quelconque des revendications précédentes, caractérisé par le fait l'avant de l'extension (9) et l'organe de serrage (10, 11) sont pourvus d'ouvertures (37) alignées à l'état monté pour le passage d'un câble de frein, d'un câble électrique ou analogue.

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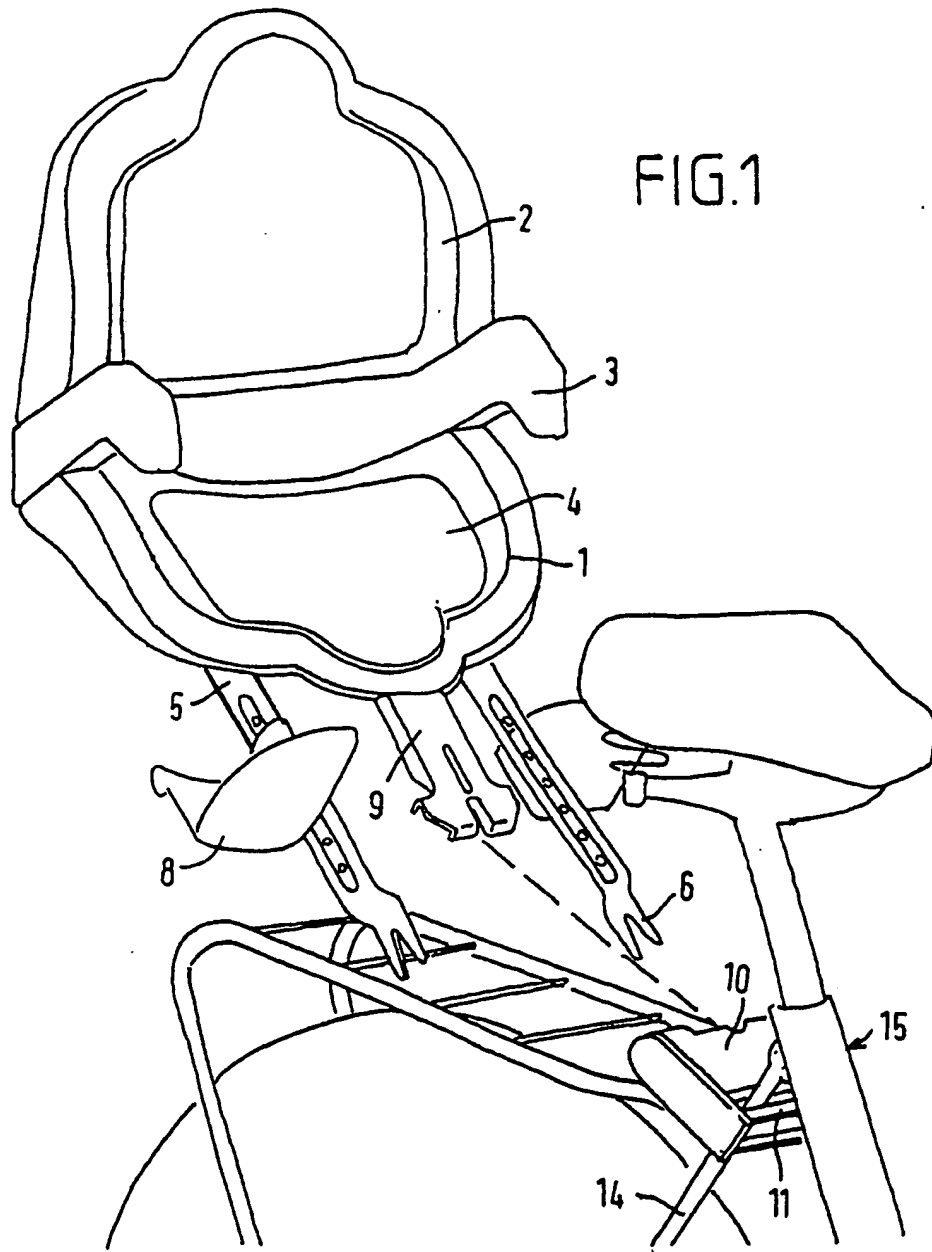


FIG.2

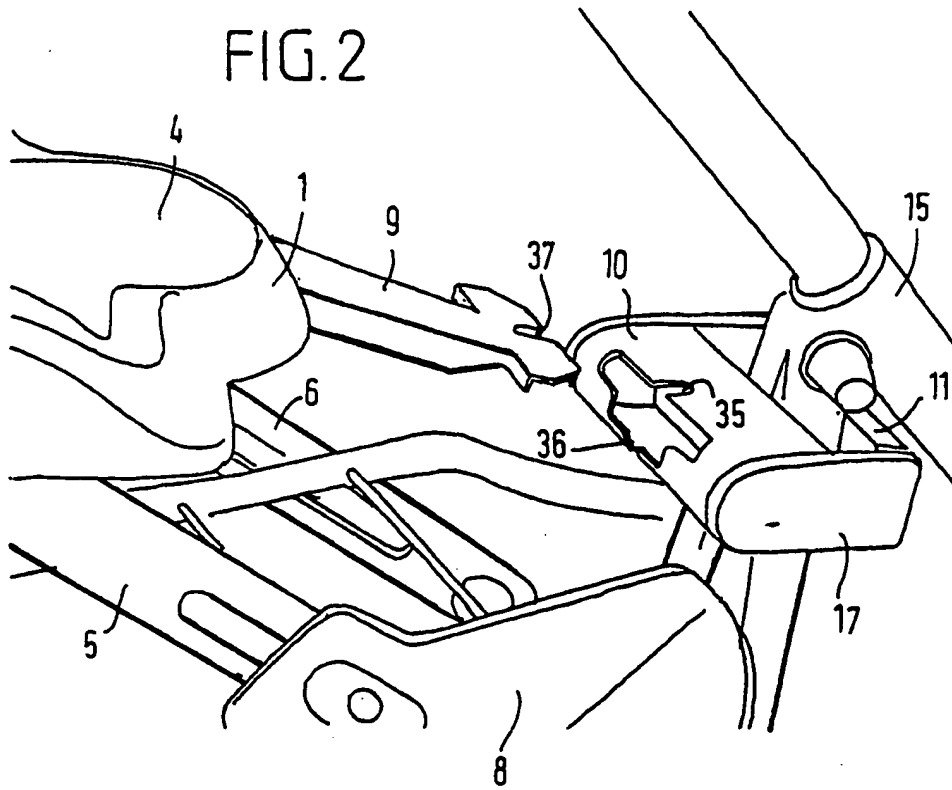


FIG.3

